

### R E M A R K S

Applicant respectfully requests further examination and reconsideration in view of the above amendments and the arguments set forth fully below. Claims 1-58 were previously pending in this application. All Claims 1-58 stand rejected. By the above amendments, Claims 11, 27, and 41 are deleted and Claims 1, 4-7, 12, 17, 20-23, 32, 35-38, 42, 46-47 are amended. Accordingly, Claims 1-10, 12-26, 28-40, and 42-58 are now pending in this application.

#### **Rejections Under 35 U.S.C. § 103**

Claims 1-58 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,127,055 issued to Larkey. The Applicant respectfully traverses this rejection.

Larkey teaches a mechanism for speech recognition within a general use application. The mechanism of Larkey allows for reference patterns to be qualified and stored, where reference patterns are system representations of user speech utterances to be recognized by the system, each reference pattern is assigned a quality which represents how effective that pattern is in enabling the system to recognize an incoming user speech utterance (col. 2, lines 58-2). Specifically, Larkey teaches the digitizing, processing, and analyzing of incoming speech and comparing the incoming speech to reference patterns stored in a reference pattern storage memory (col. 4, lines 10-16). A data processing system then makes a best estimate of the identity of the incoming signal and provides electrical signals identifying the best estimate to an output device (col. 4, lines 16-20). To clarify, "identify" does not refer to the identification of the user; instead, "identify" refers to the recognizing of the incoming user utterance. Larkey further teaches that there may be one or several patterns which correspond to the same word or phrase (col. 4, lines 28-30). The stored reference patterns are dynamically updated and adapted by using correction actions the user has provided about the correctness of the recognition, the correction actions being critical to successful operation of the reference pattern adaptation method (col. 4, lines 32-50). Summarily, Larkey teaches a speech recognition system, to be used as a non-user-specific application, which provides best estimates as to the recognized identity of incoming user utterances, these best estimates are adapted in response to user feedback. *Larkey does not teach a user-specific speech recognition system where a speaker-specific model is stored and updated*

*according to the incoming user utterance.*

In contrast to the teachings of Larkey, the speech recognition system of the present invention provides for speaker-specific acoustic models to be used in the speech recognition process. Multiple users can access the same application, each user having an individualized speaker-specific acoustic model which stored, retrieved from storage, and modified according to samples of the specific speaker's speech. By utilizing speaker-specific models which are uniquely tailored to the individual user, the speech recognition system of the present invention greatly improves the accuracy of speech recognition over that of a generalized speech recognition system. Further, the speaker-specific acoustic model does not require direct user feedback to be modified. The present invention eliminates the inconvenience of requiring user feedback and as a result improves efficiency by automatically modifying the speaker-specific acoustic models based on the received samples of the specific speaker's speech. Larkey does not teach the use of speaker-specific acoustic models that are modified by samples of the specific speaker's speech.

The independent Claim 1 is directed to a method of adapting a speech recognition system. The method of Claim 1 includes the steps of obtaining an identification of a speaker, obtaining a sample of a speaker's speech during a first remote session, recognizing the speaker's speech utilizing the speech recognition system during the first remote session, modifying the speech recognition system according to the sample thereby forming a speaker-specific modified speech recognition system, storing a representation of the speaker-specific modified speech recognition system in association with the identification of the speaker, and using the representation of the speaker-specific modified speech recognition system to recognize speech during a subsequent remote session with the speaker. The Office Action states that the limitation "modifying the speech recognition system according to the sample thereby forming a speaker-specific modified speech recognition system" of Claim 1 reads on Larkey (Abstract). The Applicant respectfully traverses this rejection. As discussed above, Larkey teaches that user feedback, in the form of correction actions, must be provided in order for the speech recognition system to be modified. Claim 1 has no such limitation. Specifically, Claim 1 teaches that the speech recognition system is modified *according to the sample*.

Additionally, as is recognized within the Office Action, Larkey does not teach "modified speech recognition system in association with an identification of the speaker." However, the Office Action states that it would have been obvious to one of ordinary skill in the art to train the

system of Larkey, which provides reference patterns which better characterize the speaker's manner of pronouncing a selected word vocabulary, so as to recognize speech and user at the same time. The Applicant contends that even if Larkey is modified as proposed by the Examiner, the result would necessarily constitute a method different from that claimed by the Applicant. Within Claim 1, the speech recognition system is not merely identifying the user but is using that identification to retrieve, modify, and store a speaker-specific modified speech recognition system that correlates directly with the identified user. If by some means Larkey can be adapted to identify the user, as proposed in the Official Action, there is no hint, teaching, or suggestion as to how this identification is to be used, let alone that the identification should specifically be used to retrieve, modify, and store a speaker-specific modified speech recognition system. Though there are no teachings in Larkey to support this position, even if the identification were intended to be used by Larkey in this manner, there is no indication that the speech recognition system as taught by Larkey is capable of performing the speaker-specific modeling and adapting as taught by the present invention. For at least these reasons, Claim 1 is allowable over the teachings of Larkey.

Claims 2-16 are each dependent upon the independent Claim 1. As discussed above, the independent Claim 1 is allowable over the teachings of Larkey. Accordingly, Claim 2-16 are each also allowable as being dependent upon an allowable base claim.

Further, the Office Action states that the limitation "wherein the representation of the modified acoustic model is a set of statistics which can be utilized to modify a pre-existing acoustic model" of Claim 5 and the limitation "wherein the representation of the modified acoustic model is a set of statistics which can be utilized to modify incoming acoustic speech" of Claim 6 both read on Larkey (col. 2, lines 1-15). The Applicant respectfully traverses this rejection. Larkey teaches that initial reference pattern statistics are established during training of the speech recognition system. However, after initial training, the system adds, deletes, and adapts reference patterns, not statistics (col. 2, lines 16-31). Each reference pattern has associated therewith a quality value representing the effectiveness of that pattern for recognizing an incoming speech utterance (col. 1, line 68 to col. 2, line 3), and each reference pattern stored in memory represents either all or a portion of a word or phrase (col. 2, lines 26-28). Therefore, once the speech recognition system of Larkey is modified, the reference patterns and their associated quality values are used to represent the modified speech recognition system. Larkey

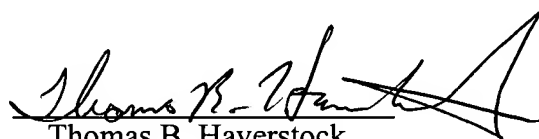
does not teach that the modified speech recognition system is represented by a set of statistics. For at least these reasons, Claim 5 and Claim 6 are allowable over the teachings of Larkey.

Within the Office Action, Claims 17-58 have been rejected as having similar limitations as Claims 1-17. The Applicant respectfully traverses this rejection for at least the same reasons as discussed above pertaining to Claims 1-17.

For the reasons given above, Applicant respectfully submits that all of the remaining claims are in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, he is encouraged to call the undersigned at (650) 833-0160 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,  
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CERTIFICATE OF MAILING (37 CFR § 1.8(a))

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HAVERSTOCK & OWENS LLP.  
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